

(l) nucleotide 5573 wherein X is T;  
(m) nucleotide 5659 wherein X is C;  
(n) nucleotide 5678 wherein X is C;  
(o) nucleotide 5874 wherein X is T; and  
(p) nucleotide 5934 wherein X is G

or the complement thereof.

*✓. 18* The isolated nucleic acid probe of claim *1* comprising at least two of:

(a) nucleotide 194 wherein X is G;  
(b) nucleotide 294 wherein X is T;  
(c) nucleotide 1136 wherein X is A;  
(d) nucleotide 1252 wherein X is T;  
(e) nucleotide 1334 wherein X is A;  
(f) nucleotide 1699 wherein X is C;  
(g) nucleotide 3150 wherein X is G;  
(h) nucleotide 3207 wherein X is T;  
(i) nucleotide 3209 wherein X is A;  
(j) nucleotide 5444 wherein X is C;  
(k) nucleotide 5551 wherein X is A;  
(l) nucleotide 5573 wherein X is T;  
(m) nucleotide 5659 wherein X is C;  
(n) nucleotide 5678 wherein X is C;  
(o) nucleotide 5874 wherein X is T; and  
(p) nucleotide 5934 wherein X is G

or the complement thereof.

*✓. 19* The probe of claim *1* comprising no more than 500 contiguous nucleotides of SEQ ID NO:1.

*✓. 20* The probe of claim *1* comprising no more than 200 contiguous nucleotides of SEQ ID NO:1.

*✓. 21* The probe of claim *1* comprising no more than 100 contiguous nucleotides of SEQ ID NO:1.

*✓. 22* The probe of claim *1* comprising no more than 50 contiguous nucleotides of SEQ ID NO:1.

*✓. 23* The probe of claim *1* comprising DNA.

*✓. 24* The probe of claim *1* comprising a peptide nucleic acid.

*✓. 25* The probe of claim *1* further comprising a detectable label.

*10. 26* The probe of claim 9 wherein the detectable label is a fluorescent label.

*11. 27* A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:1, the probe comprising at least one of:

- (i) nucleotide 194 wherein X is G;
- (ii) nucleotide 294 wherein X is T;
- (iii) nucleotide 1136 wherein X is A;
- (iv) nucleotide 1252 wherein X is T;
- (v) nucleotide 1334 wherein X is A;
- (vi) nucleotide 1699 wherein X is C;
- (vii) nucleotide 3150 wherein X is G;
- (viii) nucleotide 3207 wherein X is T;
- (ix) nucleotide 3209 wherein X is A;
- (x) nucleotide 5444 wherein X is C;
- (xi) nucleotide 5551 wherein X is A;
- (xii) nucleotide 5573 wherein X is T;
- (xiii) nucleotide 5659 wherein X is C;
- (xiv) nucleotide 5678 wherein X is C;
- (xv) nucleotide 5874 wherein X is T; and
- (xvi) nucleotide 5934 wherein X is G

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*12. 28* An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:2, the probe comprising at least one of:

- (a) nucleotide 3434 wherein X is T;
- (b) nucleotide 4313 wherein X is C;
- (c) nucleotide 4799 wherein X is G;
- (d) nucleotide 5255 wherein X is T;
- (e) nucleotide 5455 wherein X is A;
- (f) nucleotide 5507 wherein X is C;
- (g) nucleotide 5810 wherein X is T;
- (h) nucleotide 6128 wherein X is T;
- (i) nucleotide 6626 wherein X is T;
- (j) nucleotide 6686 wherein X is T;

or the complement thereof.

*13. 29* The isolated nucleic acid probe of claim 12 comprising at least two of:

- (a) nucleotide 3434 wherein X is T;

(b) nucleotide 4313 wherein X is C;  
(c) nucleotide 4799 wherein X is G;  
(d) nucleotide 5255 wherein X is T;  
(e) nucleotide 5455 wherein X is A;  
(f) nucleotide 5507 wherein X is C;  
(g) nucleotide 5810 wherein X is T;  
(h) nucleotide 6128 wherein X is T;  
(i) nucleotide 6626 wherein X is T;  
(j) nucleotide 6686 wherein X is T;

or the complement thereof.

~~14.30~~ The probe of claim ~~12~~ <sup>18</sup> comprising no more than 500 contiguous nucleotides of SEQ ID NO:1.

~~15.31~~ The probe of claim ~~12~~ <sup>18</sup> comprising no more than 200 contiguous nucleotides of SEQ ID NO:2.

~~16.32~~ The probe of claim ~~12~~ <sup>18</sup> comprising no more than 100 contiguous nucleotides of SEQ ID NO:2.

~~17.33~~ The probe of claim ~~12~~ <sup>18</sup> comprising no more than 50 contiguous nucleotides of SEQ ID NO:2.

~~18.34~~ The probe of claim ~~12~~ <sup>18</sup> comprising DNA.

~~19.35~~ The probe of claim ~~12~~ <sup>18</sup> comprising a peptide nucleic acid.

~~20.36~~ The probe of claim ~~12~~ <sup>18</sup> further comprising a detectable label.

~~21.37~~ The probe of claim ~~20~~ <sup>36</sup> wherein the detectable label is a fluorescent label.

~~22.38~~ A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:2, the probe comprising at least one of:

(i) nucleotide 3434 wherein X is T;  
(ii) nucleotide 4313 wherein X is C;  
(iii) nucleotide 4799 wherein X is G;  
(iv) nucleotide 5255 wherein X is T;  
(v) nucleotide 5455 wherein X is A;  
(vi) nucleotide 5507 wherein X is C;  
(vii) nucleotide 5810 wherein X is T;  
(viii) nucleotide 6128 wherein X is T;

(ixi) nucleotide 6626 wherein X is T;  
(x) nucleotide 6686 wherein X is T;  
or the complement thereof; and  
(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*23. 39* An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:3, the probe comprising at least one of:

- (a) nucleotide 166 wherein X is C;
- (b) nucleotide 577 wherein X is G;
- (c) nucleotide 638 wherein X is G;
- (d) nucleotide 1708 wherein X is G;
- (e) nucleotide 3432 wherein X is C;
- (f) nucleotide 3682 wherein X is T;
- (g) nucleotide 3730 wherein X is A;
- (h) nucleotide 3925 wherein X is G;
- (i) nucleotide 3937 wherein X is C;

or the complement thereof.

*24. 40* The isolated nucleic acid probe of claim *23* comprising at least two of:

- (a) nucleotide 166 wherein X is C;
- (b) nucleotide 577 wherein X is G;
- (c) nucleotide 638 wherein X is G;
- (d) nucleotide 1708 wherein X is G;
- (e) nucleotide 3432 wherein X is C;
- (f) nucleotide 3682 wherein X is T;
- (g) nucleotide 3730 wherein X is A;
- (h) nucleotide 3925 wherein X is G;
- (i) nucleotide 3937 wherein X is C;

or the complement thereof.

*25. 41* The probe of claim *23* comprising no more than 500 contiguous nucleotides of SEQ ID NO:3.

*26. 42* The probe of claim *23* comprising no more than 200 contiguous nucleotides of SEQ ID NO:3.

*27. 43* The probe of claim *23* comprising no more than 100 contiguous nucleotides of SEQ ID NO:3.

*28. 44* The probe of claim *23* comprising no more than 50 contiguous nucleotides of SEQ ID NO:3.

*29. 45* The probe of claim *23* comprising DNA.

~~30.46~~ <sup>39</sup> The probe of claim ~~23~~ comprising a peptide nucleic acid.

~~31.47~~ <sup>19</sup> The probe of claim ~~23~~ further comprising a detectable label.

~~32.48~~ <sup>17</sup> The probe of claim ~~31~~ wherein the detectable label is a fluorescent label.

~~33.49~~ A method comprising

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:3, the probe comprising at least one of:

- (i) nucleotide 166 wherein X is C;
- (ii) nucleotide 577 wherein X is G;
- (iii) nucleotide 638 wherein X is G;
- (iv) nucleotide 1708 wherein X is G;
- (v) nucleotide 3432 wherein X is C;
- (vi) nucleotide 3682 wherein X is T;
- (vii) nucleotide 3730 wherein X is A;
- (viii) nucleotide 3925 wherein X is G;
- (ix) nucleotide 3937 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

~~34.50~~ <sup>40</sup> An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:4, the probe comprising at least one of:

- (a) nucleotide 175 wherein X is A;
- (b) nucleotide 341 wherein X is G;
- (c) nucleotide 791 wherein X is T;
- (d) nucleotide 1067 wherein X is A;
- (e) nucleotide 1337 wherein X is A;
- (f) nucleotide 1997 wherein X is C;
- (g) G is inserted after nucleotide 2106;
- (h) nucleotide 2582 wherein X is G;
- (i) nucleotide 2617 wherein X is T;
- (j) nucleotide 2652 wherein X is C;

or the complement thereof.

~~35.51~~ <sup>50</sup> The isolated nucleic acid probe of claim ~~34~~ comprising at least two of:

- (a) nucleotide 175 wherein X is A;
- (b) nucleotide 341 wherein X is G;
- (c) nucleotide 791 wherein X is T;
- (d) nucleotide 1067 wherein X is A;

(e) nucleotide 1337 wherein X is A;  
(f) nucleotide 1997 wherein X is C;  
(g) G is inserted after nucleotide 2100;  
(h) nucleotide 2582 wherein X is G;  
(i) nucleotide 2617 wherein X is T;  
(j) nucleotide 2652 wherein X is C;  
or the complement thereof.

~~36.52~~ The probe of claim ~~34~~ comprising no more than 500 contiguous nucleotides of SEQ ID NO:4.

~~37.53~~ The probe of claim ~~34~~ comprising no more than 200 contiguous nucleotides of SEQ ID NO:4.

~~38.54~~ The probe of claim ~~34~~ comprising no more than 100 contiguous nucleotides of SEQ ID NO:4.

~~39.55~~ The probe of claim ~~34~~ comprising no more than 50 contiguous nucleotides of SEQ ID NO:4.

~~40.56~~ The probe of claim ~~34~~ comprising DNA.

~~41.57~~ The probe of claim ~~34~~ comprising a peptide nucleic acid.

~~42.58~~ The probe of claim ~~34~~ further comprising a detectable label.

~~43.59~~ The probe of claim ~~42~~ wherein the detectable label is a fluorescent label.

~~44.60~~ A method comprising:

- (a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;
- (b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:4, the probe comprising at least one of:
  - (i) nucleotide 175 wherein X is A;
  - (ii) nucleotide 341 wherein X is G;
  - (iii) nucleotide 791 wherein X is T;
  - (iv) nucleotide 1067 wherein X is A;
  - (v) nucleotide 1337 wherein X is A;
  - (vi) nucleotide 1997 wherein X is C;
  - (vii) wherein G is inserted after nucleotide 2100;
  - (viii) nucleotide 2582 wherein X is G;
  - (ix) nucleotide 2617 wherein X is T;
  - (x) nucleotide 2652 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

45.61 An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:5, the probe comprising at least one of:

- (a) nucleotide 431 wherein X is G;
- (b) nucleotide 441 wherein X is G;
- (c) nucleotide 498 wherein X is T;
- (d) nucleotide 579 wherein X is C;
- (e) nucleotide 599 wherein X is C;

or the complement thereof.

46.62 The isolated nucleic acid probe of claim 45 comprising at least two of:

- (a) nucleotide 431 wherein X is G;
- (b) nucleotide 441 wherein X is G;
- (c) nucleotide 498 wherein X is T;
- (d) nucleotide 579 wherein X is C;
- (e) nucleotide 599 wherein X is C;

or the complement thereof.

47.63 The probe of claim 45 comprising no more than 500 contiguous nucleotides of SEQ ID NO:5.

48.64 The probe of claim 45 comprising no more than 200 contiguous nucleotides of SEQ ID NO:5.

49.65 The probe of claim 45 comprising no more than 100 contiguous nucleotides of SEQ ID NO:5.

50.66 The probe of claim 45 comprising no more than 50 contiguous nucleotides of SEQ ID NO:5.

51.67 The probe claim 45 comprising DNA.

52.68 The probe of claim 45 comprising a peptide nucleic acid.

53.69 The probe of claim 45 further comprising a detectable label.

54.70 The probe of claim 53 wherein the detectable label is a fluorescent label.

55.71 A method comprising:

- (a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;

(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:5, the probe comprising at least one of:

- (i) nucleotide 431 wherein X is G;
- (ii) nucleotide 441 wherein X is G;
- (iii) nucleotide 498 wherein X is T;
- (iv) nucleotide 579 wherein X is C;
- (v) nucleotide 599 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*56.72* An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:6, the probe comprising at least one of:

- (a) nucleotide 1066 wherein X is C;
- (b) nucleotide 1136 wherein X is G;
- (c) nucleotide 1497 wherein X is A;

or the complement thereof.

*57.73* The isolated nucleic acid probe of claim *56* comprising at least two of:

- (a) nucleotide 1066 wherein X is C;
- (b) nucleotide 1136 wherein X is G;
- (c) nucleotide 1497 wherein X is A;

or the complement thereof.

*58.74* The probe of claim *56* comprising no more than 500 contiguous nucleotides of SEQ ID NO:6.

*59.75* The probe of claim *56* comprising no more than 200 contiguous nucleotides of SEQ ID NO:6.

*60.76* The probe of claim *56* comprising no more than 100 contiguous nucleotides of SEQ ID NO:6.

*61.77* The probe of claim *56* comprising no more than 50 contiguous nucleotides of SEQ ID NO:6.

*62.78* The probe of claim *56* comprising DNA.

*63.79* The probe of claim *56* comprising a peptide nucleic acid.

*64.80* The probe of claim *56* further comprising a detectable label.

*65.81* The probe of claim *64* wherein the detectable label is a fluorescent label.

~~66.82~~ A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;

(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:6, the probe comprising at least one of:

- (i) nucleotide 1066 wherein X is C;
- (ii) nucleotide 1136 wherein X is G;
- (iii) nucleotide 1497 wherein X is A;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

~~67.83~~ An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:7, the probe comprising at least one of:

- (a) nucleotide 276 wherein X is T;
- (b) nucleotide 321 wherein X is C;
- (c) nucleotide 452 wherein X is A;
- (d) C is inserted after nucleotide 457;
- (e) nucleotide 491 wherein X is A;
- (f) nucleotide 533 wherein X is C;
- (g) nucleotide 624 wherein X is C;
- (h) nucleotide 639 wherein X is G;
- (i) nucleotide 655 wherein X is C;

or the complement thereof.

~~68.84~~ The isolated nucleic acid probe of claim ~~67~~ comprising at least two of:

- (a) nucleotide 276 wherein X is T;
- (b) nucleotide 321 wherein X is C;
- (c) nucleotide 452 wherein X is A;
- (d) C is inserted after nucleotide 457;
- (e) nucleotide 491 wherein X is A;
- (f) nucleotide 533 wherein X is C;
- (g) nucleotide 624 wherein X is C;
- (h) nucleotide 639 wherein X is G;
- (i) nucleotide 655 wherein X is C;

or the complement thereof.

~~69.85~~ The probe of claim ~~67~~ comprising no more than 500 contiguous nucleotides of SEQ ID NO:7.

~~70.86~~ The probe of claim ~~67~~ comprising no more than 200 contiguous nucleotides of SEQ ID NO:7.

*71.87* The probe of claim *67* comprising no more than 100 contiguous nucleotides of SEQ ID NO:7.

*72.88* The probe of claim *67* comprising no more than 50 contiguous nucleotides of SEQ ID NO:7.

*73.89* The probe of claim *67* comprising DNA.

*74.90* The probe of claim *67* comprising a peptide nucleic acid.

*75.91* The probe of claim *67* further comprising a detectable label.

*76.92* The probe of claim *75* wherein the detectable label is a fluorescent label.

*77.93* A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:7, the probe comprising at least one of:

- (i) nucleotide 276 wherein X is T;
- (ii) nucleotide 321 wherein X is C;
- (iii) nucleotide 452 wherein X is A;
- (iv) C is inserted after nucleotide 457;
- (v) nucleotide 491 wherein X is A;
- (vi) nucleotide 533 wherein X is C;
- (vii) nucleotide 624 wherein X is C;
- (viii) nucleotide 639 wherein X is G;
- (ix) nucleotide 655 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*78.94* An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:8, the probe comprising at least one of:

- (a) nucleotide 701 wherein X is C;
- (b) nucleotide 716 wherein X is G;
- (c) nucleotide 732 wherein X is C;
- (d) nucleotide 1293 wherein X is G;
- (e) nucleotide 1322 wherein X is G;
- (f) nucleotide 1379 wherein X is C;
- (g) nucleotide 1590 wherein X is T;
- (h) nucleotide 1688 wherein X is G;
- (i) nucleotide 2401 wherein X is G;
- (j) nucleotide 2429 wherein X is A;

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(k) nucleotide 2488 wherein X is T;  
(l) nucleotide 2594 wherein X is T;  
(m) nucleotide 2618 wherein X is A;  
(n) nucleotide 3083 wherein X is A;  
(o) nucleotide 3125 wherein X is A;  
(p) nucleotide 3212 wherein X is T;  
(q) nucleotide 3619 wherein X is A;  
(r) nucleotide 3635 wherein X is A;  
(s) nucleotide 4256 wherein X is A;  
(t) nucleotide 4898 wherein X is G;  
(u) nucleotide 5006 wherein X is T;  
(v) nucleotide 5062 wherein X is A;  
(w) nucleotide 5167 wherein X is A;  
(x) nucleotide 11069 wherein X is G;  
(y) nucleotide 11238 wherein X is T;  
(z) nucleotide 11293 wherein X is G;  
(aa) nucleotide 11422 wherein X is C;  
(bb) nucleotide 11686 wherein X is T;  
(cc) nucleotide 12598 wherein X is C;  
(dd) nucleotide 13171 wherein X is C;  
(ee) nucleotide 13298 wherein X is A;  
(ff) nucleotide 13645 wherein X is C;  
(gg) nucleotide 13751 wherein X is A;  
(hh) nucleotide 13782 wherein X is C;  
(ii) nucleotide 13806 wherein X is C;  
(jj) nucleotide 13813 wherein X is C;  
(kk) nucleotide 14479 wherein X is G;  
(ll) T is inserted after nucleotide 14546;  
(mm) nucleotide 14585 wherein X is T;  
(nn) nucleotide 14729 wherein X is A;  
(oo) nucleotide 14787 wherein X is T;  
(pp) nucleotide 14795 wherein X is A;  
(qq) nucleotide 15041 wherein X is C;  
(rr) nucleotide 15343 wherein X is A;  
(ss) nucleotide 15449 wherein X is A;  
(tt) nucleotide 15502 wherein X is A;  
(uu) nucleotide 15545 wherein X is T;  
(vv) nucleotide 15589 wherein X is G;  
(ww) nucleotide 15769 wherein X is T;  
(xx) nucleotide 15839 wherein X is G;  
(yy) nucleotide 16148 wherein X is A;  
(zz) nucleotide 16198 wherein X is G; and  
(aaa) nucleotide 16202 wherein X is T;

or the complement thereof.

79. <sup>95</sup> The isolated nucleic acid probe of claim <sup>94</sup> 78 comprising at least two of:

(a) nucleotide 701 wherein X is C;  
(b) nucleotide 716 wherein X is G;  
(c) nucleotide 732 wherein X is C;  
(d) nucleotide 1293 wherein X is G;  
(e) nucleotide 1322 wherein X is G;  
(f) nucleotide 1379 wherein X is C;  
(g) nucleotide 1590 wherein X is T;  
(h) nucleotide 1688 wherein X is G;  
(i) nucleotide 2401 wherein X is G;  
(j) nucleotide 2429 wherein X is A;  
(k) nucleotide 2488 wherein X is T;  
(l) nucleotide 2594 wherein X is T;  
(m) nucleotide 2618 wherein X is A;  
(n) nucleotide 3083 wherein X is A;  
(o) nucleotide 3125 wherein X is A;  
(p) nucleotide 3212 wherein X is T;  
(q) nucleotide 3619 wherein X is A;  
(r) nucleotide 3635 wherein X is A;  
(s) nucleotide 4256 wherein X is A;  
(t) nucleotide 4898 wherein X is G;  
(u) nucleotide 5006 wherein X is T;  
(v) nucleotide 5062 wherein X is A;  
(w) nucleotide 5167 wherein X is A;  
(x) nucleotide 11069 wherein X is G;  
(y) nucleotide 11238 wherein X is T;  
(z) nucleotide 11293 wherein X is G;  
(aa) nucleotide 11422 wherein X is C;  
(bb) nucleotide 11686 wherein X is T;  
(cc) nucleotide 12598 wherein X is C;  
(dd) nucleotide 13171 wherein X is C;  
(ee) nucleotide 13298 wherein X is A;  
(ff) nucleotide 13645 wherein X is C;  
(gg) nucleotide 13751 wherein X is A;  
(hh) nucleotide 13782 wherein X is C;  
(ii) nucleotide 13806 wherein X is C;  
(jj) nucleotide 13813 wherein X is C;  
(kk) nucleotide 14479 wherein X is G;  
(ll) nucleotide 14546 wherein X is T;  
(mm) T is inserted after nucleotide 14546;  
(nn) nucleotide 14729 wherein X is A;  
(oo) nucleotide 14787 wherein X is T;  
(pp) nucleotide 14795 wherein X is A;

(qq) nucleotide 15041 wherein X is C;  
(rr) nucleotide 15343 wherein X is A;  
(ss) nucleotide 15449 wherein X is A;  
(tt) nucleotide 15502 wherein X is A;  
(uu) nucleotide 15545 wherein X is T;  
(vv) nucleotide 15589 wherein X is G;  
(ww) nucleotide 15769 wherein X is T;  
(xx) nucleotide 15839 wherein X is G;  
(yy) nucleotide 16148 wherein X is A;  
(zz) nucleotide 16198 wherein X is G; and  
(aaa) nucleotide 16202 wherein X is T;

or the complement thereof.

80.96 The probe of claim <sup>94</sup> ~~78~~ comprising no more than 500 contiguous nucleotides of SEQ ID NO:8.

81.97 The probe of claim <sup>94</sup> ~~78~~ comprising no more than 200 contiguous nucleotides of SEQ ID NO:8.

82.98 The probe of claim <sup>94</sup> ~~78~~ comprising no more than 100 contiguous nucleotides of SEQ ID NO:8.

83.99 The probe of claim <sup>94</sup> ~~78~~ comprising no more than 50 contiguous nucleotides of SEQ ID NO:8.

84.100 The probe of claim <sup>94</sup> ~~78~~ comprising DNA.

85.101 The probe of claim <sup>94</sup> ~~78~~ comprising a peptide nucleic acid.

86.102 The probe of claim <sup>94</sup> ~~78~~ further comprising a detectable label.

87.103 The probe of claim <sup>94</sup> ~~86~~ wherein the detectable label is a fluorescent label.

88.104 A method comprising:

- (a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;
- (b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:8, the probe comprising at least one of:

- (i) nucleotide 701 wherein X is C;
- (ii) nucleotide 716 wherein X is G;
- (iii) nucleotide 732 wherein X is C;
- (iv) nucleotide 1293 wherein X is G;
- (v) nucleotide 1322 wherein X is G;
- (vi) nucleotide 1379 wherein X is C;

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A /

(vii) nucleotide 1590 wherein X is T;  
(viii) nucleotide 1688 wherein X is G;  
(ix) nucleotide 2401 wherein X is G;  
(x) nucleotide 2429 wherein X is A;  
(xi) nucleotide 2488 wherein X is T;  
(xii) nucleotide 2594 wherein X is T;  
(xiii) nucleotide 2618 wherein X is A;  
(xiv) nucleotide 3083 wherein X is A;  
(xv) nucleotide 3125 wherein X is A;  
(xvi) nucleotide 3212 wherein X is T  
(xvii) nucleotide 3619 wherein X is A;  
(xviii) nucleotide 3635 wherein X is A;  
(xix) nucleotide 4256 wherein X is A;  
(xx) nucleotide 4898 wherein X is G;  
(xxi) nucleotide 5006 wherein X is T;  
(xxii) nucleotide 5062 wherein X is A;  
(xxiii) nucleotide 5167 wherein X is A;  
(xxiv) nucleotide 11069 wherein X is G;  
(xxv) nucleotide 11238 wherein X is T;  
(xxvi) nucleotide 11293 wherein X is G;  
(xxvii) nucleotide 11422 wherein X is C;  
(xxviii) nucleotide 11686 wherein X is T;  
(xxix) nucleotide 12598 wherein X is C;  
(xxx) nucleotide 13171 wherein X is C;  
(xxxi) nucleotide 13298 wherein X is A;  
(xxxii) nucleotide 13645 wherein X is C;  
(xxxiii) nucleotide 13751 wherein X is A;  
(xxxiv) nucleotide 13782 wherein X is C;  
(xxxv) nucleotide 13806 wherein X is C;  
(xxxvi) nucleotide 13813 wherein X is C;  
(xxxvii) nucleotide 14479 wherein X is G;  
(xxxviii) T is inserted after nucleotide 14546;  
(xxxix) nucleotide 14585 wherein X is T;  
(xl) nucleotide 14729 wherein X is A;  
(xli) nucleotide 14787 wherein X is T;  
(xlii) nucleotide 14795 wherein X is A;  
(xliii) nucleotide 15041 wherein X is C;  
(xliv) nucleotide 15343 wherein X is A;  
(xlv) nucleotide 15449 wherein X is A;  
(xlii) nucleotide 15502 wherein X is A;  
(xlvi) nucleotide 15545 wherein X is T;  
(xlvii) nucleotide 15589 wherein X is G;  
(xlii) nucleotide 15769 wherein X is T;  
(l) nucleotide 15839 wherein X is G;

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(li) nucleotide 16148 wherein X is A;  
(lii) nucleotide 16198 wherein X is G; and  
(liii) nucleotide 16202 wherein X is T

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*89.105* An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:9, the probe comprising at least one of:

(a) nucleotide 128 wherein X is A;  
(b) nucleotide 189 wherein X is G;  
(c) nucleotide 524 wherein X is G;  
(d) nucleotide 1399 wherein X is A;  
(e) nucleotide 1464 wherein X is A;  
(f) nucleotide 1636 wherein X is T;  
(g) nucleotide 1738 wherein X is T; and  
(h) nucleotide 2259 wherein X is C

or the complement thereof.

*90.106* The isolated nucleic acid probe of claim *89* comprising at least two of:

(a) nucleotide 128 wherein X is A;  
(b) nucleotide 189 wherein X is G;  
(c) nucleotide 524 wherein X is G;  
(d) nucleotide 1399 wherein X is A;  
(e) nucleotide 1464 wherein X is A;  
(f) nucleotide 1636 wherein X is T;  
(g) nucleotide 1738 wherein X is T; and  
(h) nucleotide 2259 wherein X is C;

or the complement thereof.

*91.107* The probe of claim *89* comprising no more than 500 contiguous nucleotides of SEQ ID NO:9.

*92.108* The probe of claim *89* comprising no more than 200 contiguous nucleotides of SEQ ID NO:9.

*93.109* The probe of claim *89* comprising no more than 100 contiguous nucleotides of SEQ ID NO:9.

*94.110* The probe of claim *89* comprising no more than 50 contiguous nucleotides of SEQ ID NO:9.

*95.111* The probe of claim *89* comprising DNA.

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*105*  
96. *112* The probe of claim *89* comprising a peptide nucleic acid.

*105*  
97. *113* The probe of claim *89* further comprising a detectable label.

*113*  
98. *114* The probe of claim *97* wherein the detectable label is a fluorescent label.

*115*  
99. *115* A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:10, the probe comprising at least one of:

- (i) nucleotide 128 wherein X is A;
- (ii) nucleotide 189 wherein X is G;
- (iii) nucleotide 524 wherein X is G;
- (iv) nucleotide 1399 wherein X is A;
- (v) nucleotide 1464 wherein X is A;
- (vi) nucleotide 1636 wherein X is T;
- (vii) nucleotide 1738 wherein X is T; and
- (viii) nucleotide 2259 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*106*  
100. *116* An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:10, the probe comprising at least one of:

- (a) nucleotide 183 wherein X is A;
- (b) nucleotide 483 wherein X is T;
- (c) nucleotide 601 wherein X is C; and
- (d) nucleotide 1299 wherein X is A;

or the complement thereof.

*101*  
101. *117* The isolated nucleic acid probe of claim *100* comprising at least two of:

- (a) nucleotide 183 wherein X is A;
- (b) nucleotide 483 wherein X is T;
- (c) nucleotide 601 wherein X is C; and
- (d) nucleotide 1299 wherein X is A;

or the complement thereof.

*102*  
102. *118* The probe of claim *100* comprising no more than 500 contiguous nucleotides of SEQ ID NO:10.

*103*  
103. *119* The probe of claim *100* comprising no more than 200 contiguous nucleotides of SEQ ID NO:10.

*120*  
104. The probe of claim *100* comprising no more than 100 contiguous nucleotides of SEQ ID NO:10.

*121*  
105. The probe of claim *100* comprising no more than 50 contiguous nucleotides of SEQ ID NO:10.

*122*  
106. The probe of claim *100* comprising DNA.

*123*  
107. The probe of claim *100* comprising a peptide nucleic acid.

*124*  
108. The probe of claim *100* further comprising a detectable label.

*125*  
109. The probe of claim *108* wherein the detectable label is a fluorescent label.

*126*  
110. A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:10, the probe comprising at least one of:

- (i) nucleotide 183 wherein X is A;
- (ii) nucleotide 483 wherein X is T;
- (iii) nucleotide 601 wherein X is C;
- (iv) nucleotide 1299 wherein X is A;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*127*  
111. An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:11, the probe comprising at least one of:

- (a) nucleotide 124 wherein X is T;
- (b) nucleotide 439 wherein X is A;
- (c) CT is inserted after nucleotide 1044;
- (d) nucleotide 1331 wherein X is A;
- (e) nucleotide 1977 wherein X is A;
- (f) nucleotide 2149 wherein X is A;
- (g) nucleotide 2467 wherein X is G;
- (h) nucleotide 2634 wherein X is G;
- (i) nucleotide 2975 wherein X is A;
- (j) nucleotide 3116 wherein X is T;
- (k) nucleotide 3255 wherein X is C;
- (l) nucleotide 3344 wherein X is C;
- (m) nucleotide 4051 wherein X is A;
- (n) nucleotide 4782 wherein X is A;
- (o) nucleotide 5022 wherein X is C;

(p) nucleotide 5266 wherein X is A;  
(q) nucleotide 5285 wherein X is G;  
(r) nucleotide 5438 wherein X is A;  
(s) nucleotide 5482 wherein X is T;  
(t) nucleotide 5629 wherein X is A;  
(u) nucleotide 5648 wherein X is T; and  
(v) nucleotide 5731 wherein X is A;  
or the complement thereof.

~~112~~<sup>128</sup> The isolated nucleic acid probe of claim ~~111~~<sup>127</sup> comprising at least two of:

(a) nucleotide 124 wherein X is T;  
(b) nucleotide 439 wherein X is A;  
(c) CT is inserted after nucleotide 1044;  
(d) nucleotide 1331 wherein X is A;  
(e) nucleotide 1977 wherein X is A;  
(f) nucleotide 2149 wherein X is A;  
(g) nucleotide 2467 wherein X is G;  
(h) nucleotide 2634 wherein X is G;  
(i) nucleotide 2975 wherein X is A;  
(j) nucleotide 3116 wherein X is T;  
(k) nucleotide 3255 wherein X is C;  
(l) nucleotide 3344 wherein X is C;  
(m) nucleotide 4051 wherein X is A;  
(n) nucleotide 4782 wherein X is A;  
(o) nucleotide 5022 wherein X is C;  
(p) nucleotide 5266 wherein X is A;  
(q) nucleotide 5285 wherein X is G;  
(r) nucleotide 5438 wherein X is A;  
(s) nucleotide 5482 wherein X is T;  
(t) nucleotide 5629 wherein X is A;  
(u) nucleotide 5648 wherein X is T; and  
(v) nucleotide 5731 wherein X is A;

or the complement thereof.

~~113~~<sup>129</sup> The probe of claim ~~111~~<sup>127</sup> comprising no more than 500 contiguous nucleotides of SEQ ID NO:11.

~~114~~<sup>130</sup> The probe of claim ~~111~~<sup>127</sup> comprising no more than 200 contiguous nucleotides of SEQ ID NO:11.

~~115~~<sup>131</sup> The probe of claim ~~111~~<sup>127</sup> comprising no more than 100 contiguous nucleotides of SEQ ID NO:11.

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~~116. 132~~ The probe of claim ~~111~~ comprising no more than 50 contiguous nucleotides of SEQ ID NO:11.

~~117. 133~~ The probe of claim ~~111~~ comprising DNA.

~~118. 134~~ The probe of claim ~~111~~ comprising a peptide nucleic acid.

~~119. 135~~ The probe of claim ~~111~~ further comprising a detectable label.

~~120. 136~~ The probe of claim ~~119~~ wherein the detectable label is a fluorescent label.

~~121. 137~~ A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:12, the probe comprising at least one of:

- (i) nucleotide 124 wherein X is T;
- (ii) nucleotide 439 wherein X is A;
- (iii) CT is inserted after nucleotide 1044;
- (iv) nucleotide 1331 wherein X is A;
- (v) nucleotide 1977 wherein X is A;
- (vi) nucleotide 2149 wherein X is A;
- (vii) nucleotide 2467 wherein X is G;
- (viii) nucleotide 2634 wherein X is G;
- (ix) nucleotide 2975 wherein X is A;
- (x) nucleotide 3116 wherein X is T;
- (xi) nucleotide 3255 wherein X is C;
- (xii) nucleotide 3344 wherein X is C;
- (xiii) nucleotide 4051 wherein X is A;
- (xiv) nucleotide 4782 wherein X is A;
- (xv) nucleotide 5022 wherein X is C;
- (xvi) nucleotide 5266 wherein X is A;
- (xvii) nucleotide 5285 wherein X is G;
- (xviii) nucleotide 5438 wherein X is A;
- (xix) nucleotide 5482 wherein X is T;
- (xx) nucleotide 5629 wherein X is A;
- (xxi) nucleotide 5648 wherein X is T; and
- (xxii) nucleotide 5731 wherein X is A;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

<sup>138</sup>  
~~122.~~ An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:12, the probe comprising at least one of:

- (a) nucleotide 803 wherein X is T;
- (b) nucleotide 1747 wherein X is T; and
- (c) nucleotide 1900 wherein X is C;

or the complement thereof.

<sup>138</sup>  
~~123.~~ The isolated nucleic acid probe of claim ~~122~~ comprising at least two of:

- (a) nucleotide 803 wherein X is T;
- (b) nucleotide 1747 wherein X is T; and
- (c) nucleotide 1900 wherein X is C;

or the complement thereof.

<sup>138</sup>  
~~124.~~ The probe of claim ~~122~~ comprising no more than 500 contiguous nucleotides of SEQ ID NO:12.

<sup>138</sup>  
~~125.~~ The probe of claim ~~122~~ comprising no more than 200 contiguous nucleotides of SEQ ID NO:12.

<sup>138</sup>  
~~126.~~ The probe of claim ~~122~~ comprising no more than 100 contiguous nucleotides of SEQ ID NO:12.

<sup>138</sup>  
~~127.~~ The probe of claim ~~122~~ comprising no more than 50 contiguous nucleotides of SEQ ID NO:12.

<sup>138</sup>  
~~128.~~ The probe of claim ~~122~~ comprising DNA.

<sup>138</sup>  
~~129.~~ The probe of claim ~~122~~ comprising a peptide nucleic acid.

<sup>138</sup>  
~~130.~~ The probe of claim ~~122~~ further comprising a detectable label.

<sup>146</sup>  
~~131.~~ The probe of claim ~~130~~ wherein the detectable label is a fluorescent label.

<sup>148</sup>  
~~132.~~ A method comprising:

- (a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;
- (b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:12, the probe comprising at least one of:

- (a) nucleotide 803 wherein X is T;
- (b) nucleotide 1747 wherein X is T; and
- (c) nucleotide 1900 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

~~133.~~<sup>149</sup> An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:13, the probe comprising at least one of:  
(a) nucleotide 1424 wherein X is A;  
(b) nucleotide 1649 wherein X is A; and  
(c) nucleotide 2554 wherein X is G;  
or the complement thereof.

~~134.~~<sup>150</sup> The isolated nucleic acid probe of claim ~~133~~<sup>149</sup> comprising at least two of:  
(a) nucleotide 1424 wherein X is A;  
(b) nucleotide 1649 wherein X is A; and  
(c) nucleotide 2554 wherein X is G;  
or the complement thereof.

~~135.~~<sup>151</sup> The probe of claim ~~133~~<sup>149</sup> comprising no more than 500 contiguous nucleotides of SEQ ID NO:13.

~~136.~~<sup>152</sup> The probe of claim ~~133~~<sup>149</sup> comprising no more than 200 contiguous nucleotides of SEQ ID NO:13.

~~137.~~<sup>153</sup> The probe of claim ~~133~~<sup>149</sup> comprising no more than 100 contiguous nucleotides of SEQ ID NO:13.

~~138.~~<sup>154</sup> The probe of claim ~~133~~<sup>149</sup> comprising no more than 50 contiguous nucleotides of SEQ ID NO:13.

~~139.~~<sup>155</sup> The probe of claim ~~133~~<sup>149</sup> comprising DNA.

~~140.~~<sup>156</sup> The probe of claim ~~133~~<sup>149</sup> comprising a peptide nucleic acid.

~~141.~~<sup>157</sup> The probe of claim ~~133~~<sup>149</sup> further comprising a detectable label.

~~142.~~<sup>158</sup> The probe of claim ~~141~~<sup>149</sup> wherein the detectable label is a fluorescent label.

~~143.~~<sup>159</sup> A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:13, the probe comprising at least one of:  
(a) nucleotide 1424 wherein X is A;  
(b) nucleotide 1649 wherein X is A; and  
(c) nucleotide 2554 wherein X is G;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*160*  
144. An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:14, the probe comprising at least one of:

- (a) nucleotide 263 wherein X is G;
- (b) nucleotide 266 wherein X is T;
- (c) nucleotide 527 wherein X is G;
- (d) nucleotide 1037 wherein X is G;
- (e) nucleotide 1139 wherein X is A;
- (f) nucleotide 1217 wherein X is T;
- (g) nucleotide 1647 wherein X is T;
- (h) nucleotide 1955 wherein X is A;
- (i) nucleotide 2017 wherein X is A;
- (j) nucleotide 2037 wherein X is A;
- (k) nucleotide 2189 wherein X is G;
- (l) nucleotide 2282 wherein X is T; and
- (m) nucleotide 2309 wherein X is G;

or the complement thereof.

*161*  
145. The isolated nucleic acid probe of claim *144* comprising at least two of:

- (a) nucleotide 263 wherein X is G;
- (b) nucleotide 266 wherein X is T;
- (c) nucleotide 527 wherein X is G;
- (d) nucleotide 1037 wherein X is G;
- (e) nucleotide 1139 wherein X is A;
- (f) nucleotide 1217 wherein X is T;
- (g) nucleotide 1647 wherein X is T;
- (h) nucleotide 1955 wherein X is A;
- (i) nucleotide 2017 wherein X is A;
- (j) nucleotide 2037 wherein X is A;
- (k) nucleotide 2189 wherein X is G;
- (l) nucleotide 2282 wherein X is T; and
- (m) nucleotide 2309 wherein X is G;

or the complement thereof.

*162*  
146. The probe of claim *144* comprising no more than 500 contiguous nucleotides of SEQ ID NO:14.

*163*  
147. The probe of claim *144* comprising no more than 200 contiguous nucleotides of SEQ ID NO:14.

*164*  
148. The probe of claim 144 comprising no more than 100 contiguous nucleotides of SEQ ID NO:14.

*165*  
149. The probe of claim 144 comprising no more than 50 contiguous nucleotides of SEQ ID NO:14.

*166*  
150. The probe claim 144 comprising DNA.

*167*  
151. The probe of claim 144 comprising a peptide nucleic acid.

*168*  
152. The probe of claim 144 further comprising a detectable label.

*169*  
153. The probe of claim 152 wherein the detectable label is a fluorescent label.

*170*  
154. A method comprising

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:14, the probe comprising at least one of:

- (i) nucleotide 263 wherein X is G;
- (ii) nucleotide 266 wherein X is T;
- (iii) nucleotide 527 wherein X is G;
- (iv) nucleotide 1037 wherein X is G;
- (v) nucleotide 1139 wherein X is A;
- (vi) nucleotide 1217 wherein X is T;
- (vii) nucleotide 1647 wherein X is T;
- (viii) nucleotide 1955 wherein X is A;
- (ix) nucleotide 2017 wherein X is A;
- (x) nucleotide 2037 wherein X is A;
- (xi) nucleotide 2189 wherein X is G;
- (xii) nucleotide 2282 wherein X is T; and
- (xiii) nucleotide 2309 wherein X is G;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*Sub B* 155. An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:15, the probe comprising at least one of:

- (a) nucleotide 120 wherein X is C;
- (b) nucleotide 464 wherein X is G;
- (c) nucleotide 519 wherein X is T;
- (d) nucleotide 668 wherein X is T;
- (e) nucleotide 1059 wherein X is C;
- (f) nucleotide 1289 wherein X is A;
- (g) nucleotide 1308 wherein X is C;
- (h) nucleotide 1784 wherein X is A,

or the complement thereof.

*Sub A* 156. The isolated nucleic acid probe of claim 155 comprising at least two of:

- (a) nucleotide 120 wherein X is C;
- (b) nucleotide 464 wherein X is G;
- (c) nucleotide 519 wherein X is T;
- (d) nucleotide 668 wherein X is T;
- (e) nucleotide 1059 wherein X is C;
- (f) nucleotide 1289 wherein X is A;
- (g) nucleotide 1308 wherein X is C;
- (h) nucleotide 1784 wherein X is A;

or the complement thereof.

157. The probe of claim 155 comprising no more than 500 contiguous nucleotides of SEQ ID NO:15.

158. The probe of claim 155 comprising no more than 200 contiguous nucleotides of SEQ ID NO:15.

159. The probe of claim 155 comprising no more than 100 contiguous nucleotides of SEQ ID NO:15.

160. The probe of claim 155 comprising no more than 50 contiguous nucleotides of SEQ ID NO:15.

161. The probe claim 155 comprising DNA.

162. The probe of claim 155 comprising a peptide nucleic acid.

163. The probe of claim 155 further comprising a detectable label.

164. The probe of claim 163 wherein the detectable label is a fluorescent label.

*182*  
165. A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;

(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:15, the probe comprising at least one of:

- (i) nucleotide 120 wherein X is C;
- (ii) nucleotide 464 wherein X is G;
- (iii) nucleotide 519 wherein X is T;
- (iv) nucleotide 668 wherein X is T;
- (v) nucleotide 1059 wherein X is C;
- (vi) nucleotide 1289 wherein X is A;
- (vii) nucleotide 1308 wherein X is C;
- (viii) nucleotide 1784 wherein X is A;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.

*183*  
166. An isolated nucleic acid probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:16, the probe comprising at least one of:

- (a) nucleotide 575 wherein X is C;
- (b) nucleotide 648 wherein X is C;
- (c) nucleotide 771 wherein X is C;
- (d) nucleotide 883 wherein X is A;
- (e) C is inserted after nucleotide 941; and
- (f) nucleotide 1051 wherein X is C;

or the complement thereof.

*184*  
167. The isolated nucleic acid probe of claim *166* comprising at least two of:

- (a) nucleotide 575 wherein X is C;
- (b) nucleotide 648 wherein X is C;
- (c) nucleotide 771 wherein X is C;
- (d) nucleotide 883 wherein X is A;
- (e) C is inserted after nucleotide 941; and
- (f) nucleotide 1051 wherein X is C;

or the complement thereof.

*185*  
168. The probe of claim *166* comprising no more than 500 contiguous nucleotides of SEQ ID NO:16.

*186*  
169. The probe of claim *166* comprising no more than 200 contiguous nucleotides of SEQ ID NO:16.

*187*  
170. The probe of claim *166* comprising no more than 100 contiguous nucleotides of SEQ ID NO:16.

*188*  
~~171.~~ The probe of claim *166* comprising no more than 50 contiguous nucleotides of SEQ ID NO:16.

*189*  
~~172.~~ The probe of claim *166* comprising DNA.

*180*  
~~173.~~ The probe of claim *166* comprising a peptide nucleic acid.

*183*  
~~174.~~ The probe of claim *166* further comprising a detectable label.

*191*  
~~175.~~ The probe of claim *174* wherein the detectable label is a fluorescent label.

*193*  
~~176.~~ A method comprising:

(a) providing a sample comprising nucleic acid molecules present in a biological sample obtained from a patient;  
(b) contacting the sample with a probe comprising at least 15 contiguous nucleotides of the nucleotide sequence of SEQ ID NO:16, the probe comprising at least one of:

- (i) nucleotide 575 wherein X is C;
- (ii) nucleotide 648 wherein X is C;
- (iii) nucleotide 771 wherein X is C;
- (iv) nucleotide 883 wherein X is A;
- (v) C is inserted after nucleotide 941; and
- (vi) nucleotide 1051 wherein X is C;

or the complement thereof; and

(c) determining if the sample comprises a nucleic acid molecule that hybridizes to the probe.--